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REPORT

ICS

OLOGY

CALIFORNIA,

R 1880.

L. AND 9 P. M. OF EACH DAY.

LEY, M. D.

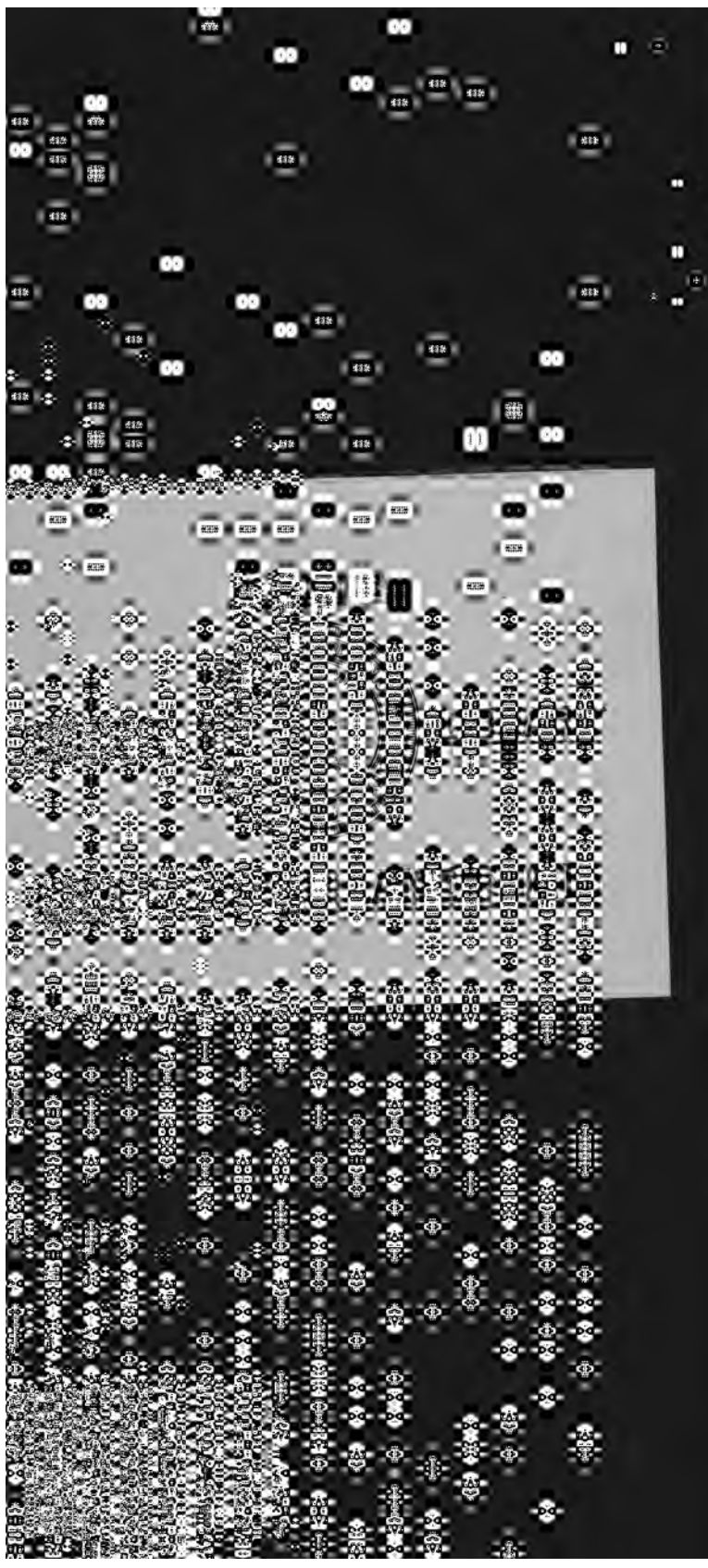
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Sea, 24 feet.

PRINTING HOUSE,  
roadway.





Page 1 of 1



ANNUAL REPORT  
AND  
STATISTICS  
OF THE  
**METEOROLOGY**  
OF THE  
CITY OF OAKLAND, CALIFORNIA,  
FOR THE YEAR 1880.

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OBSERVATIONS TAKEN AT 7 A. M., 2 P. M. AND 9 P. M. OF EACH DAY.

*By J. B. TREMBLEY, M. D.*

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Latitude 37 deg., 48 min., 20 sec. North ; Longitude 122 deg., 15 min., 20 sec. West ; Height  
of Barometer above the Sea, 24 feet.

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OAKLAND:  
DAILY TIMES BOOK AND JOB PRINTING HOUSE,  
Corner Ninth and Broadway.

1881.

*MP*

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## METEOROLOGY.

The meteorology of the city of Oakland is a subject in which each of its citizens cannot be otherwise than deeply interested. To know what it is, and its relation to the necessities and wants of human life for comfort and happiness, health and prosperity, is an object that has been taken in view for the past five years. Three times each day meteorological observations have been taken, at or near the hours mentioned, and the following tables are the result of this labor. Although but one year—that of 1880—is fully represented in the first few tables, still further on are recapitulated tables and statistics bearing upon the several years referred to, from which almost positive conclusions can be drawn relative to what the climatology of this city is, and its bearing, in a sanitary point, upon its location as a place of desirable residence, both for equability of climate and what diseases are incident thereto. Its geographical and topographical location is, perhaps, without its equal. To obtain a view of this, a person should seek for a lookout on some undulating foothill to the eastward of the city, Berkeley or Temescal. It has well been said by some writer, who could take in the scene on beholding the panorama spread out before him from the points indicated: "The picture is full of beauty and promise; the whole view is magnificent; the Golden Gate; the brown and smoking city of San Francisco; and the long, narrow strip of San Mateo County lying beyond; the blue ribbon of the bay seen above the Encinal of Alameda and stretching away to the left until blended with the haze and clouds to the southward; Alameda, with its white dwellings nestling in emerald bowers; the broad, smooth bay, dotted with many moving and anchored craft of all kinds and nationalities; bold Tamalpais and other prominent landmarks of Marin County to the northwest; and right at the feet of the spectator, and apparently reaching almost from the water front to the base of the foothills, the city of Oakland with its hundreds of magnificent residences, its fine churches, its beautiful lake, its costly suburban villas and charming evergreen oaks, lies spread out like a map—a landscape scene not surpassed on the American continent." They who have had the pleasure of seeing the views presented cannot say that the writer has overdrawn, or that it is possible to give a just description with the pen of the picture that was before them. That this picturesque scene, composed of nature in her greatest loveliness, embellished by art, is ever there to be seen, with the changing seasons in winter or summer, year after year, with but slight variation, is a wonder in nature, and a description which seems to savor more of romance than sober truth.

Y. A. B. L. J. B. A. J.

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## SYNOPTICAL TABLES.

### BAROMETRICAL PRESSURE.

TABLE SHOWING THE MEAN, HIGHEST AND LOWEST MONTHLY  
BAROMETER ; ALSO, THE MONTHLY RANGE. BAROMETER NOT  
CORRECTED FOR ELEVATION OR TEMPERATURE.

1880.	Mean Monthly Barometer.	Highest Observed Barometer For the Month.	Lowest Observed Barometer For the Month.	Range for the Month.
January.....	30.05	30.36	29.69	.67
February.....	30.09	30.41	29.74	.67
March.....	30.07	30.27	29.75	.52
April.....	29.95	30.18	29.50	.68
May.....	30.00	30.22	29.80	.42
June.....	29.93	30.13	29.80	.33
July.....	29.90	30.00	29.76	.24
August.....	29.85	30.03	29.62	.41
September...	29.91	30.01	29.72	.29
October.....	29.97	30.16	29.76	.40
November.....	30.07	30.38	29.80	.58
December.....	29.95	30.34	29.48	.86
Means .....	29.97	30.20	29.70	.50

### BAROMETRICAL RECAPITULATION FOR THE YEAR 1880.

Mean barometer for the year.....	29.97
Maximum barometer for the year, February 13th, 7 A. M.....	30.41
Minimum barometer for the year, December 14th, 9 P. M.....	29.48
Highest monthly range for the year.....	.86
Lowest monthly range for the year.....	.29
Yearly range.....	.93

70137

## TEMPERATURE.

TABLE SHOWING THE MEAN TEMPERATURE OF THE MONTHS, WARMEST AND COLDEST DAYS ; ALSO, THE MAXIMUM AND MINIMUM TEMPERATURES, THE GREATEST AND LEAST DAILY VARIATION, MONTHLY AND MEAN DAILY RANGE.

1880.	Mean Temperature of the Months.	Mean Temperature of Warmest Days.	Mean Temperature of Coldest Days.	Maximum Temperature.	Minimum Temperature.	Greatest Daily Variation.	Least Daily Variation.	Monthly Range of Temperature.	Mean Daily Range of Temperature.
January.....	43.85	52.33	37.66	60.	29.	21.	4.	31.	13.93
February.....	45.03	51.33	41.00	66.	30.	36.	3.	36.	15.00
March.....	47.63	52.66	41.00	68.	32.	28.	5.	36.	14.61
April.....	53.55	58.33	48.33	71.	40.	20.	1.	31.	10.10
May.....	57.54	70.66	49.66	89.	41.	34.	8.	48.	18.51
June.....	57.75	67.33	55.00	83.	47.	25.	8.	36.	14.56
July.....	59.48	62.00	55.00	76.	51.	22.	7.	25.	12.03
August.....	59.63	63.33	57.00	74.	48.	22.	8.	26.	13.80
September.....	58.16	63.66	55.33	80.	49.	30.	7.	31.	14.10
October.....	58.14	69.00	53.00	81.	42.	32.	4.	39.	16.61
November.....	50.85	66.33	42.33	80.	29.	30.	4.	51.	20.63
December.....	51.62	58.00	44.33	64.	35.	8.	1.	29.	7.39
Means.....	53.69	61.24	49.97	74.33	39.41	25.66	5.	34.91	14.10

## RECAPITULATION OF TEMPERATURE FOR THE YEAR OF 1880.

Mean temperature of the year.....	53.69
Mean temperature of the warmest day, May 26th.....	70.66
Mean temperature of the coldest day, February 26th.....	41.
Maximum temperature for the year, May 27th, 2 P. M.....	89.
Minimum temperature for the year, January 27th, 7 A. M.....	29.
Greatest daily variation, February 2d.....	36.
Least daily variation, December 22d.....	1.
Greatest monthly range, May.....	48.
Least monthly range, December.....	29.
Average daily range for the year.....	14.10
Average monthly range for the year.....	34.91
Yearly range of temperature.....	60.

## SEASONS.

Mean temperature of Winter.....	45.38
Mean temperature of Spring.....	52.97
Mean temperature of Summer.....	58.95
Mean temperature of Autumn.....	55.85
Difference between the coldest and warmest of Spring months.....	9.91
Difference between the coldest and warmest of Summer months.....	1.88
Difference between the coldest and warmest of Autumn months.....	7.76
Difference between the coldest and warmest of Winter months.....	2.37
Difference between the coldest and warmest months of the year.....	15.78

PRECIPITATION  
BY THE WIND BLEW  
DECEMBER 31st, 1880, IN.

No. Mornings Frost.	Wind—1088 Observations.			
	S. W. & W.	N. W. & N.	N. E. & E.	S. E. & S.
13	14	22	8	8
13	13	12	7	22
14	34	11	10	9
1	53	0	0	19
2	42	8	5	14
0	46	8	0	16
0	44	8	3	16
0	35	11	0	10
0	19	17	1	12
3	17	19	5	6
13	11	17	14	6
3	18	3	6	34
62	346	136	59	172

FOR THE YEAR 1880.

.....	83.74
.....	100.
..... 16th, 9 P. M. ....	27.
.....	45.40
.....	00.20
.....	28.07
..... 280. ....	23.84
.....	12.97
.....	258
.....	108
.....	53
.....	27
.....	86
.....	62
.....	346
.....	136
.....	59
.....	172
.....	385



The following will more particularly illustrate the climate of Oakland for the five past years, as it regards the equability of seasons and the difference between the warmest and coldest five years.

Five Years.	Spring.	Summer.	Autumn.	Winter.	Difference.
1876.....	54.46	60.40	57.75	48.20	12.20
1877.....	55.18	61.17	57.67	50.39	10.78
1878.....	55.73	59.36	56.92	50.12	9.24
1879.....	56.16	60.07	56.73	49.57	10.50
1880.....	52.97	58.95	55.86	45.38	13.57
Means .....	54.90	59.99	56.98	48.75	11.24

Difference between the warmest and coldest means of the season for five years is 15.79.

**MONTHLY RAINFALL AS TAKEN IN OAKLAND BY MR. JAMES HUTCHISON, OF THE BAY NURSERY, FOR THE CONSECUTIVE YEARS MENTIONED.**

MONTHS.	1873.	1874.	1875.	1876.		1877.		1878.		1879.		1880.	
	Quantity.	Quantity.	Quantity.	Quantity.	Days.	Quantity.	Days.	Quantity.	Days.	Quantity.	Days.	Quantity.	Days.
July .....	.00	.00	.00	.10	2	.18	2	.00	2	.00	2	0.00	0
August .....	.00	.00	.00	.00	1	.00	0	.00	3	.00	2	0.00	0
September .....	.00	.00	.00	.15	5	.00	0	.57	3	.00	2	0.00	0
October .....	.60	2.34	.30	4.74	10	.45	4	1.85	2	.70	5	0.05	1
November .....	.60	9.18	7.83	.25	2	1.62	8	.65	3	2.98	9	0.35	2
December .....	10.18	.31	4.10	.00	0	1.75	8	.31	6	5.06	14	12.57	18
	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.					
January .....	5.60	6.15	5.28	4.19	9	10.82	16	3.84	11	1.71	7		
February .....	1.80	.30	4.87	1.42	5	11.63	17	5.65	9	2.19	9		
March .....	5.25	1.65	4.55	.96	7	4.30	16	7.96	15	1.70	9		
April .....	1.25	.00	.93	.22	5	1.18	6	1.17	12	8.46	18		
May .....	.75	.10	.45	.30	5	.40	2	1.39	7	1.04	5		
June .....	.00	1.64	.24	.00	0	.00	0	.16	1	0.00	0		
Amount .....	26.03	21.67	28.53	12.33	51	32.33	79	23.55	74	23.84	82		

The rainfall in California is rather phenomenal, and depending greatly upon latitude and topography. The average difference of annual rainfall in the State, extending from north-west to south-east, is little over two inches for every degree, being thirty-four inches at Crescent City and ten inches at San Diego. It is said to increase about one inch for every one hundred feet in elevation in ascending the Sierra Nevada.

TABLE

SHOWING THE COMPARATIVE ANNUAL METEOROLOGY OF 1876, 1877,  
1878, 1879 AND 1880.

	1876.	1877.	1878.	1879.	1880.
Mean temperature of the year.....	55.09	56.29	55.28	55.11	53.69
Mean temperature of warmest day.....	74.	76.	69.33	75.33	70.66
Mean temperature of coldest day.....	36.	41.63	37.	33.66	41.
Maximum temperature for the year.....	97.	96.	84.	93.	89.
Minimum temperature for the year.....	30.	30.	27.	27.	29.
Greatest daily variation of temperature....	33.	38.	33.	46.	36.
Least daily variation of temperature.....	2.	1.	2.	00.	1.
Greatest monthly range of temperature....	49.	47.	46.	46.	48.
Least monthly range of temperature.....	19.	25.	23.	30.	28.
Average daily range of temperature for year	14.94	14.61	13.65	12.96	14.10
Average monthly range of temp. for year..	34.92	35.5	32.5	38.	34.91
Yearly range of temperature.....	67.	66.	57.	66.	60.
Mean relative humidity for the year.....	83.	83.11	84.71	85.29	83.74
Highest relative humidity for the year....	100.	100.	100.	100.	100.
Lowest relative humidity for the year.....	40.	35.40	38.60	39.	27.
Greatest variation of humidity in 24 hours	49.09	51.20	45.06	58.	45.40
Least variation of humidity in 24 hours...	.06	.01	.02	.30	00 20
Rainfall in inches during the year.....	21.56	11.09	31.71	28.91	28.07
Rainfall in inches during the agricultural years, from July 1, 1875, to July 1, 1880..	28.53	12 33	32.33	23.55	23.84
Number of clear and fair days during year..	268	301	255	266	258
Number of cloudy days during the year....	98	64	110	99	108
Number of days in which rain fell .....	63	54	78	89	53
Number of foggy mornings.....	23	8	17	19	27
Number of mornings overcast.....	51	44	64	63	86
Number of mornings that frost was seen..	35	35	36	46	62
Wind, direction from SW. and W.....	342	364	311	355	346
Wind, direction from NW. and N.....	210	150	173	150	136
Wind, direction from NE. and E.....	34	63	45	50	59
Wind, direction from SE. and S.....	163	150	164	126	172
Calms.....	340	368	402	372	385
SEASONS.					
Mean temperature of Spring.....	54.46	55.18	55.73	56.15	52.97
Mean temperature of Summer.....	60.40	61.17	59.36	60.07	58.95
Mean temperature of Autumn.....	57.75	57.67	56.92	56.73	55.86
Mean temperature of Winter.....	48.20	50.39	50.12	47.60	45.38
Difference between the warmest and cold- est months of Spring.....	4.40	1.94	3.86	.70	9.91
Difference between the warmest and cold- est months of Summer.....	1.99	1.10	.35	1.26	1.88
Difference between the warmest and cold- est months of Autumn.....	6.13	7.75	5.93	9.14	7.70
Difference between the warmest and cold- est months of Winter.....	5.	6.09	1.28	5.13	2.37
Difference between the warmest and cold- est months of the year.....	16.20	12.25	13.06	15.68	15.78

## FOR FOUR YEARS.

Mean difference between the coldest and warmest months for five years..	14.59
Mean temperature for five years.....	55.09
Mean barometer for five years.....	29.65
Mean relative humidity for five years.....	83.99
Mean annual rainfall in inches for five years.....	24.27

The meteorological phenomenon for the year 1880, was one of extremes, in barometrical pressure—temperature, relative humidity and weather, represented by storms, wind frost and cold, in and out of season.

*January.*—For several days in succession, the ground remained frozen in shaded places and ice formed nearly an inch in thickness, in exposed situations. An eclipse of the sun occurred on the 11th of the month, and on the morning of the 26th, snow covered the foothills almost to their base, giving the landscape a decided wintry appearance in every direction.

The Mount Diablo range of hills, and mountains, as well as the Santa Cruz range, were white with snow. Tamalpais and the high hills, visible in Marin county, for the first time in many years, put on the winter garment. All tender plants, shrubs and vegetables, were frozen, and nearly destroyed—but a few survived the freezing cold.

*February.*—The same phenomena of cold, continued through the month, making the mean temperature, 4.46 degrees, below the mean for many years.

*March.*—Was extremely cold, very dry, and no apparent vegetable growth. The cold was unprecedented in the history of California.

*April.*—Was marked by the culmination of weather in extreme storms of wind, of rain, and occasional hail. On the 14th, one of the most severe storms of the season prevailed. At 1:10 o'clock, P. M., an earthquake, occurred, attended with two shocks in quick succession, and a noise or roar, resembling a sudden gust of high wind, bursting in a door, or some near explosion. Its course was from southwest to northeast, and the vibratory motion of the earth was far greater than that which has attended any before for years. The duration could not have been longer than five to ten seconds. Buildings shook, and rocked, door-bells were rung, crockery was thrown from shelving; clocks, and articles standing loosely on brackets, were thrown off, and the usual consternation of the people, on the occurrence of such a phenomenon, was manifested. The storm, with showers, and steady rain, continued until the 22d, when it culminated in a severe hail storm, and a miniature cyclone or tornado, which moved a short distance in the city, sending loose movable articles hurling into the air, upsetting and overturning carriages and light vehicles. One small house was moved from its foundation, and one man had his arm broken, by the upsetting of his hack, were among the accidents. The amount of rainfall in inches was greater than ever before known during the month of April.

*May.*—The cold of the previous months of the year continued until the last few days, when the weather warmed up, and the thermometer reached 89 degrees in the shade.

*June, July, August, September and October* were very cold and dry. No rain occurred during these months that was appreciable to measurement, and frost was seen on the sidewalks and exposed situations several mornings in the month of October.

*November.*—With this month again came cold weather, hard frosts, freezing nights and all phenomenal extremes, more in accord with a different latitude and climate than this. The mean temperature was nearly two degrees colder than usual for the month—barometrical pressure higher, and humidity less than ever observed in Oakland. There was scarcely any rainfall, although Solar Halos and threatening storms made their appearance quite a number of times. On the 4th, at 7:35 P. M., an earthquake occurred, attended with an explosive sound, and vibratory motion from southeast towards the northwest. A few seconds after a lighter shock was felt. Buildings of brick vibrated very perceptibly, crockery and utensils were moved from their places, chandeliers and pendant articles from ceiling and walls were swayed by the motion of the earth. On the night of the 16th, a desicating gale of wind from the northeast prevailed, filling the air with sand and clouds of dust, reducing the atmospherical humidity to the lowest minimum ever observed here—27 degrees of saturation.

*December.*—Was a month of compensating extremes. The mean temperature was 3.40 degrees warmer than the average, and the rainfall in inches has not been exceeded but a few times in a period of thirty years. Notwithstanding the unfavorable weather during nearly the whole year, the various industries of the State were generally prosperous; and if the people are not contented and happy from the receipts and profits derived from their various vocations it is a fault greatly their own.

California was excep-  
timate and weather in

any perceptible reason,  
atmospheric changes o  
re the same that exist  
appearing otherwise to  
this subject the ques-  
weather? *Climate* it may  
at embraces many me-  
wards, climate is the me-  
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ude and of proximity to  
ter.

the earth, atmospherical  
tch the wind blows.

is measured by parallel  
earth, without taking  
uration or the wide-

Meteorologically con-  
phenomena and shows

by climate, depends far  
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ade in either direction  
titude these lines vary

exceedingly eccentric in  
s of the year, although

s isothermal of mean  
stants of barometrical

h year reach the same,  
atmospherical pressure,

Blodget in his climat-  
ysics of the earth's

exception of the exterior  
ermine that to be con-

according to the rules  
physics. The surface



of the earth and its geological structure have at some remote interval undergone great changes, but there are none now in progress which are sufficiently important to influence the climate in any degree."

The constants of climate have not undergone much of any change throughout the historic period of man; notwithstanding many physicists have endeavored to show how climate may be changed by artificial means within the control of human ingenuity, by removing forests, draining and cultivating large districts or territories of land—by re-planting trees where they have been removed, and establishing anew forests, where the old ones were cut away.

But this is yet to be proved, whether these agents exercise any power over the terrestrial influences that produce weather and climate; even if they did, it would be but for a short time, the greater power would assert itself, and the tendency would even be to return to the original condition. Remove a forest, the same influences are ever active that first placed it there to reproduce it, and the slight modification made by artificial means cannot in the least, change the terrestrial agents that have their origin in climate. Climate develops the soil for cultivation and renders it productive or unproductive, clothes the surface of the earth with vegetation, life and beauty, or renders it a waste and arid desert. Could the Colorado Desert of California be removed to the interior of the continent, to the great basin of the Mississippi Valley, but a few years would pass before it would be clothed with vegetation and its soil become cultivable, producing and reproducing the indigenous products of that portion of the earth.

These ideas respecting climate are subjects of discussion; nevertheless the greater laws of climatic influence are indisputable; and, as far as understood, they are believed as being correct.

The influences which produce changes in climate and weather, are subject to fixed laws or causes, one preceding and depending upon another, each manifesting itself as a specific cause, producing a specific result, and all depending upon the movements of the earth, the action of the rays of the sun on the surface of the earth, and the topographical features of continental elevations and ocean depths.

With these remarks in general, upon a subject that has for years past engaged the attention of the most learned physicists in all portions of the globe and who have by their individual and collective labors gathered a vast amount of positive knowledge appertaining to climatology, we come to the subject of California's climate or climates:

The State has two seasons—the wet and dry: each of these, to a certain extent, have a controlling effect upon the weather in different districts or localities. These climatic divisions seem to have definite geographical boundaries which are marked by mountain ranges and contiguity to the ocean. Its topographical contour is much broken by high elevations and intervening valleys. The coast valleys lie between the ocean and the coast range of mountains; the second or larger valleys lie between the coast and Sierra Nevada mountains. These valleys and mountain ranges extend almost parallel with the ocean line, from twenty to eighty miles in width, and nearly from three to five hundred miles in length. The northern and southern portions of the State have each a peculiar configuration in the way of basins or valleys surrounded by high land and mountains.

In the meteorological divisions made, the northern and eastern portions of the State, including the Klamath Valley or basin, and the upper altitudes of the Sierra Nevada mountains, constitute one; another is the Sacramento, San Joaquin and Tulare Valleys; another embraces the coast valleys, lying between the coast range of mountains, and the ocean, extending from Cape Mendocino in Humboldt county on the north, to Point Arguello or Point Conception on the south, in Santa Barbara county.

Another consists of that portion of the State extending southward of the Santa Inez and westward of the San Bernardino range of mountains to the ocean. Another is formed of the larger portions of San Diego, San Bernardino and Inyo counties, including the Colorado Desert.

There is another region, including Lake, the northern portion of Napa, northeastern part of Sonoma and eastern part of Mendocino counties, that do not seem to belong to any of the climatic divisions made, and also a few other small areas in various localities.

These climatic divisions or zones not only represent climate, weather, vegetable growth, but also are boundaries of a medical geography which possesses to a greater or less degree a Therapeutical and Hygienic influence on the welfare and health of the inhabitants residing therein.

From the most reliable and accessible data or statistics obtained from military stations, reports from the United States Signal Service, Central and Pacific Railroad station agents, and volunteer meteorological observers throughout the State, the following tables have been made, extending over a period of quite a number of years, representing the mean temperature of

January and July, the mean annual temperature, rainfall; altitude, latitude and longitude, of each place mentioned. It would have been a great satisfaction had these tables embraced more localities or stations of observations. Still, enough has been collected to give a forecast, at least, of what the climate of California is, and determine to a great degree, the object in view, in endeavoring to establish a medical geography of the Pacific Coast.

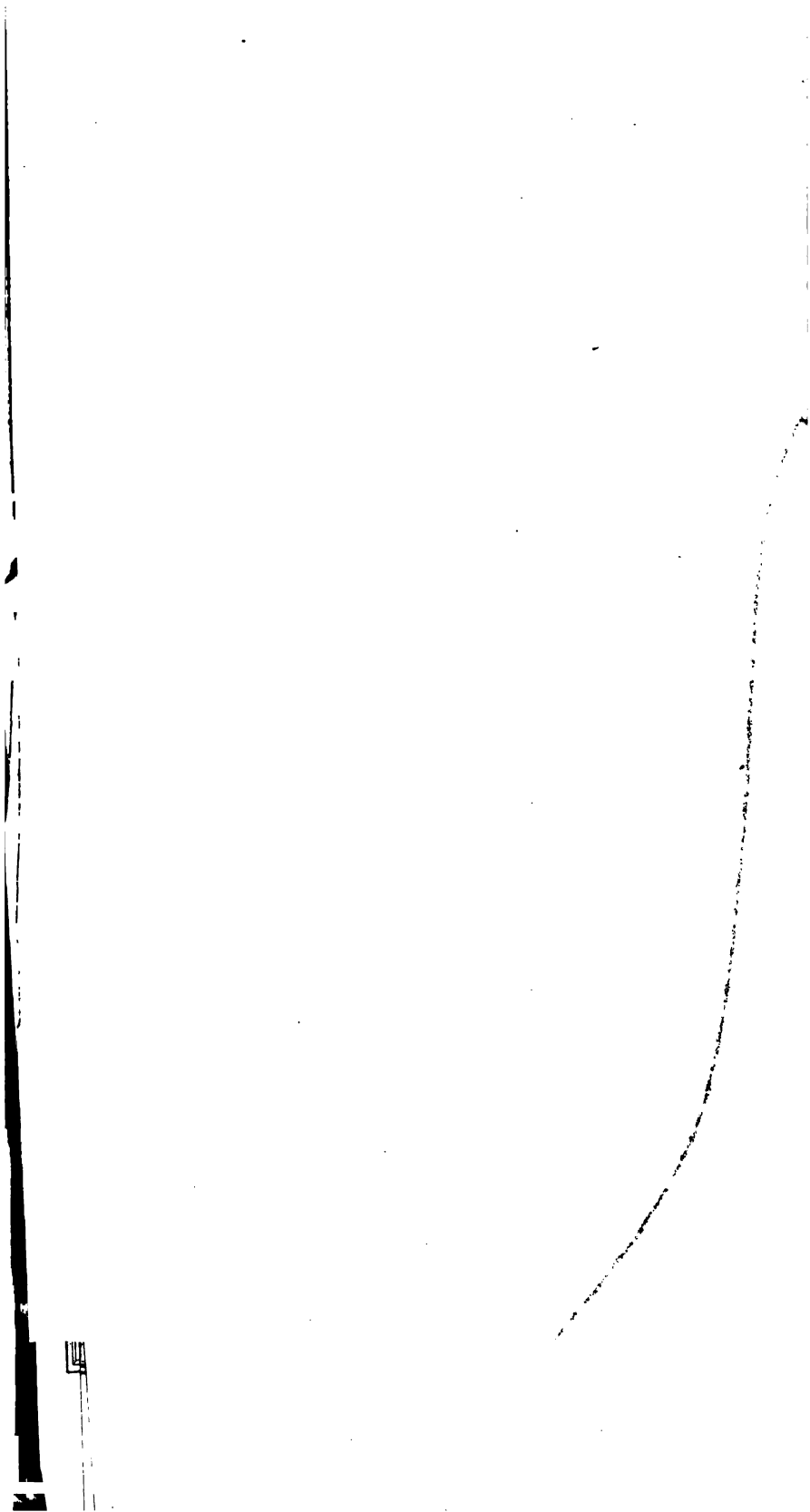


**TABLE**

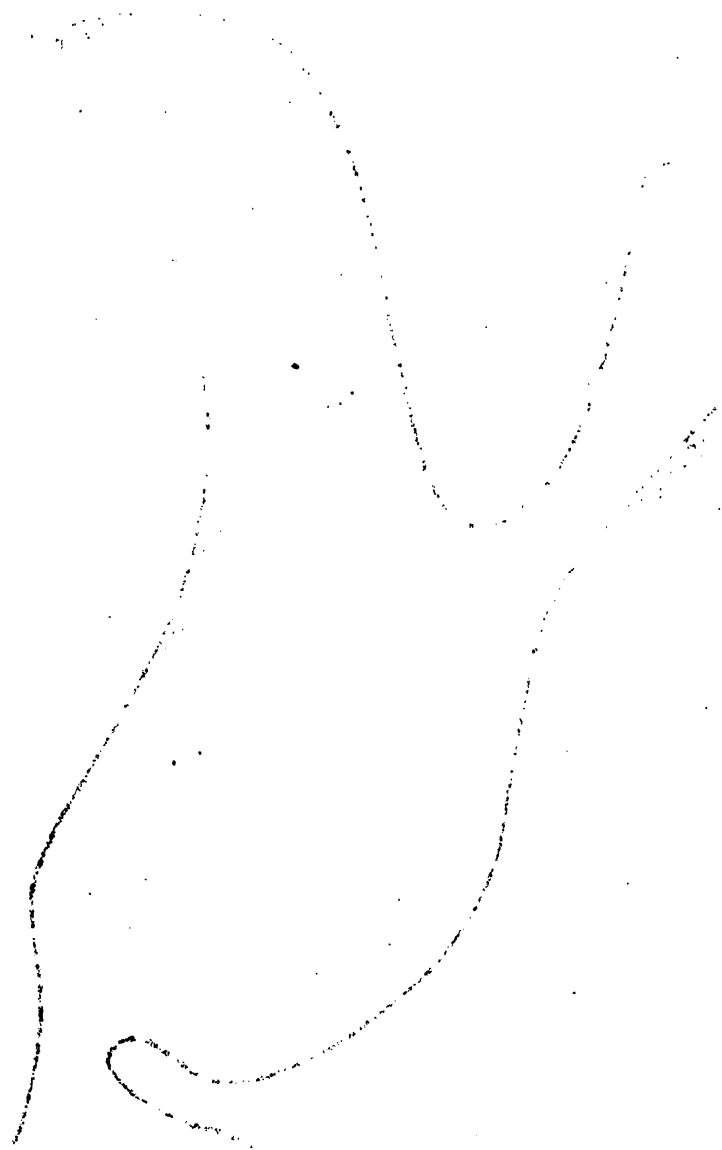
Showing the mean temperature of January and July ; the mean temperature of the year ; rainfall in inches ; altitude ; latitude and longitude of the places mentioned. The temperature and rainfall are made up from meteorological observations taken in each locality, extending over a period of time from one to nine years.

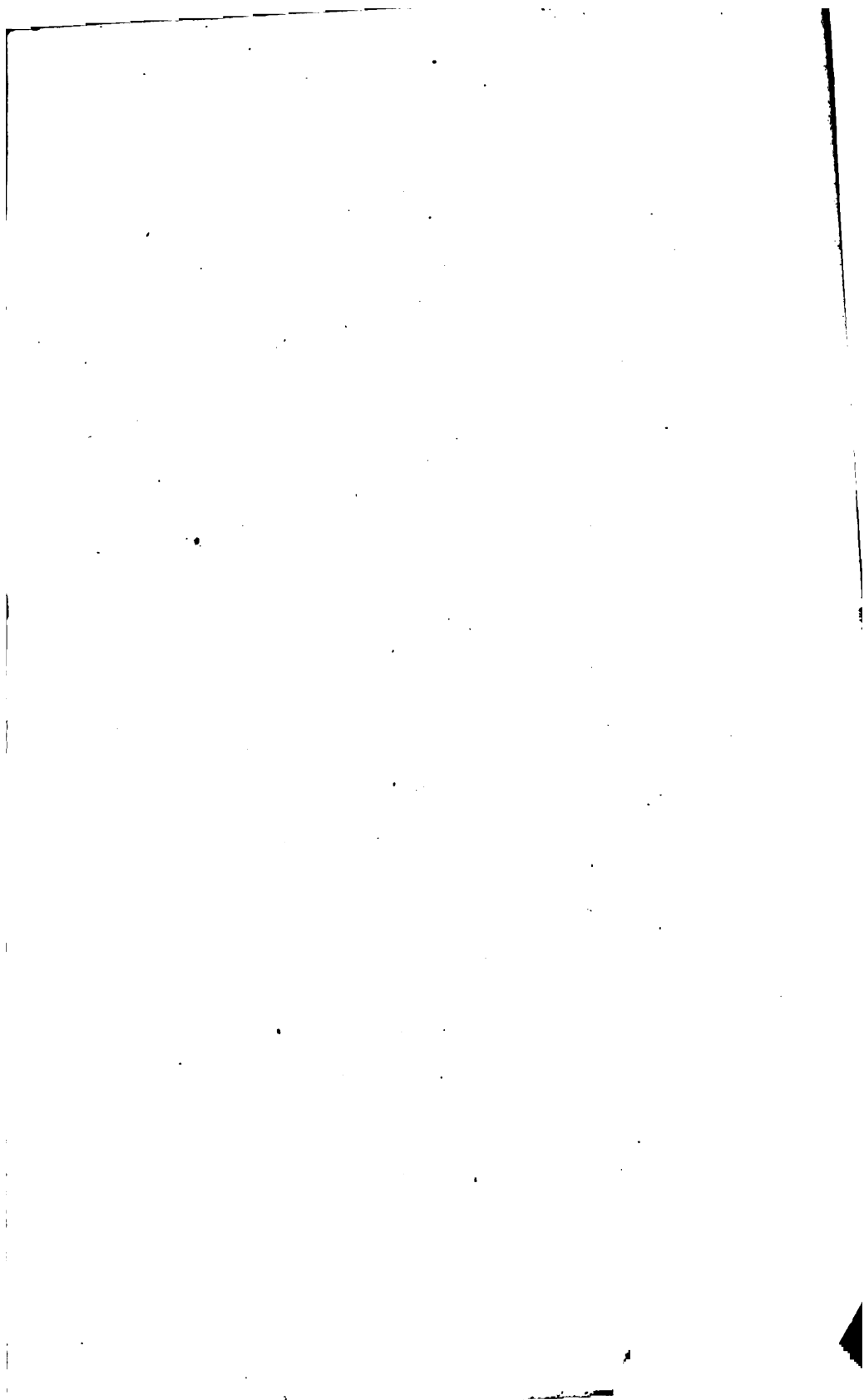
LOCALITIES.	Mean Temperature of January.	Mean Temperature of July.	Mean Annual Temperature	Rainfall in Inches.	Feet in Altitude.	Latitude North.		Longitude West.	
	DEG.	DEG.	DEG.			DEG.	MIN.	DEG.	MIN.
<b>KLAMATH VALLEY AND SIERRA NEVADA MOUNTAIN RANGE.</b>									
Humboldt.....	43.10	58.60	52.10	34.56	50	40 46		124 09	
Fort Jones.....	31.40	71.50	51.40	21.77	2,570	41 36		122 52	
<b>VALLEYS OF SACRAMENTO, SAN JOAQUIN AND TULARE.</b>									
Fort Reading.....	44.20	82.90	62.10	43.56	674	40 28		122 05	
Red Bluff.....	47.20	83.40	63.90	23.55	307	40 10		122 16	
Marysville.....	48.08	79.66	63.62	18.25	67	39 21		121 30	
Sacramento.....	46.47	73.48	60.48	18.25	30	38 33		121 20	
Stockton.....	46.24	74.04	61.99	13.23	23	37 57		121 17	
Modesto.....	47.00	80.45	63.68	9.60	91	37 40		120 53	
Merced.....	48.22	80.58	63.16	9.36	171	37 20		120 26	
Borden.....			66.37	3.32	274	36 55		120 00	
Tulare.....	45.51	85.58	64.09	4.83	282	36 14		119 18	
Delano.....			68.64	4.03	313	35 43		119 12	
Sumner.....	46.59	87.00	68.29	3.92	415	35 23		118 58	
<b>THE COAST VALLEYS.</b>									
Vallejo.....	47.00	67.00	57.90	...	...	38 05		...	...
San Francisco.....	50.10	59.80	56.65	21.95	50	37 48		122 20	
Oakland.....	49.50	60.10	54.09	24.26	24	37 48		122 15	
San Jose.....	47.90	65.10	57.30	10.24	94	37 20		121 52	
Gilroy.....	47.47	79.66	59.44	16.45	201	37 00		121 31	
Salinas.....	50.27	61.57	55.90	10.74	52	36 35		121 46	
Monterey.....	52.20	58.50	55.30	15.29	42	36 36		121 52	
Soledad.....	47.06	65.53	56.29	8.07	188	36 15		121 21	
<b>SOUTHERN COAST VALLEYS—SANTA BARBARA, LOS ANGELES AND SAN DIEGO.</b>									
Los Angeles.....	54.47	74.48	64.63	11.35	457	34 03		118 12	
*Santa Barbara.....	55.63	67.57	62.09	14.71	12	34 24		...	...
San Luis Rey.....	52.00	70.60	61.30	6.95	20	33 13		117 25	
San Diego.....	51.90	72.70	62.11	7.88	150	32 42		117 14	
<b>COLORADO AND MOJAVE DESERTS.</b>									
Fort Yuma.....	56.40	92.30	73.60	3.15	120	32 44		114 36	
Fort Mojave.....	.....	.....	.....	2.65	104	35 06		114 35	

\* Approximately.









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